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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,642	04/12/2004	Craig R. Horne	3275.06US03	1933
7590 06/08/2005 Patterson, Thunte, Skaar & Christensen, P.A. 4800 IDS Center 80 South 8th Street Minneapolis, MN 55402-2100			EXAMINER HOFFMANN, JOHN M	
			ART UNIT 1731	PAPER NUMBER
DATE MAILED: 06/08/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/822,642	Applicant(s) HORNE ET AL.	
	Examiner John Hoffmann	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 20 and 24-27 is/are rejected.
- 7) ☒ Claim(s) 21-23 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/27/05</u> . | 6) <input type="checkbox"/> Other: ____ |

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DETAILED ACTION

Election/Restrictions

This application contains claims directed to the following patentably distinct species of the claimed invention: Specie A: wherein the particles are added as a slurry; (claims 1-11); Specie B wherein the particles are added as a stream (claims 12-19); and Specie C wherein the particles are added as part of an insert.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record

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showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Peter Dardi on 20 April 2005 a provisional election was made with traverse to prosecute the invention of Specie C, claims 20-27. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed (i.e. to the method).

Claim Objections

Claims 21-23 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claim 20 requires that the insert comprise a coating. However, claim 21 requires placing the coating on the insert. Thus claim 21 requires that the insert can be something that does NOT have the coating. Thus, Claim 21 broaden the scope of "insert" to be completely beyond (and mutually exclusive) that of the scope of "insert" as

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required by claim 20. Thus claim 21 does not further limit claim 20 – it takes it to a completely new scope.

Claims 21-23 are not further treated on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 24-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26: there is no antecedent basis for “the rod” – it is unclear if this suggests that claim 20 inherently requires a rod.

Claim 27: Examiner is unaware of any reason for having rare earth “metal” in optical fibers. However fibers with rare earth “oxides” are very important in some fibers. Examiner could not find any explanation in the specification regarding using a metal. It is deemed that one of ordinary skill would not be able to determine whether using a rare earth oxide (and no metallic feature) would avoid infringing claim 27.

See Allen Eng'g Corp. V. Bartell Indus. Inc., 299 F.3d 1336, 1348, 63 USPQ2d 1769, 1775 (Fed. Cir. 2002) (quoting Personalized Media Communications, LLC v. Int'l Trade Comm'n, 161 F.3d 696, 705, 48 USPQ2d 1880, 1888 (Fed. Cir. 1998)) (“In determining whether the claim is sufficiently definite, we must analyze whether “one skilled in the art would understand the bounds of the claim when read in light of the specification.”) See also, Exxon Research & Eng'g Co. v. United States, 265 F.3d 1371, 1375, 60 USPQ2d 1272, 1276 (Fed. Cir. 2001) (citation omitted) (patent claims must be “sufficiently precise to permit a potential competitor to determine whether or not he is infringing”).

Claim 24-25: there is confusing antecedent basis for "primary particle". It is unclear whether this particle is one of the particles of claim 20, or if it is in addition thereto.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20 and 24, 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Hicks 4749396 (with Sarkar 4599098 to show inherency)

Col. 4, lines 19-22 discloses the step of inserting. Lines 48-60 of the same column discloses that the insert has a powder coating. Hicks does not mention particle size, but does disclose that the coating is made by CVD using silicon chloride (col. 3, lines 58-68 and col. 4, lines 55-60).

This CVD inherently creates submicron particles which means the average size would also be sub-micron. See Sarkar, col. 2, lines 15-30 for evidence that such is inherent.

Claim 24 is met because the particles are sub-micron sized.

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Claim 26: it is deemed that figure 3 of Hicks disclose a uniformly dispersed layer at least at the particular cross-section

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 20 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Hicks 4749396 in view of Sarkar 4599098, Miller 4501602, and optionally Schultz 4263031.

See how Hicks and Sarkar are applied above. *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966) inquiry 1 is implicitly set forth above. Inquiry 4, there does not appear to be any such evidence. Inquiry 2: as indicated above, the difference between the present invention and Hicks is the indication of particle size. The level of ordinary skill is deemed to be sufficient to create sub-micron sized particles in the CVD process since that is what Sarkar suggests is needed "for producing high purity silica glasses" (col. 2, lines 15-17). It would have been obvious to one performing the Hicks method to create submicron sized particles – because that is what is typically done in CVD methods for creating high purity silica glasses.

Miller is cited for teaching it is preferred to have sizes not exceeding 0.1 microns (col. 10, lines 35-43) so as to obtain void-free glasses. Schultz is cited as giving guidance as to how to create 0.1 micron silica particles (col. 4, lines 26-31). It would have been obvious to use 0.1 micron (i.e. 100 nm) (or less) sized particles so as to obtain void-free glass. Alternatively, it would be obvious to perform routine experimentation to determine the optimal particle size: Miller discloses that such is a result-effective variable.

Claims 24-26 the 1 micron, 100nm and "uniformly distributed" limitations of the claims are discussed above. Claim 26 – additionally – it would have been obvious to provide the layer uniformly distributed, because that is what the figures suggests and what one typically thinks of a "layer" – and so as to have uniform properties alone and around the fiber.

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From MPEP 2144.05 [R-1] Obviousness of Ranges:

See MPEP § 2131.03 for case law pertaining to rejections based on the anticipation of ranges under 35 U.S.C. 102 and 35 U.S.C. 102/103.

II. OPTIMIZATION OF RANGES

A. Optimization Within Prior Art Conditions or Through Routine Experimentation

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.); >see also Peterson, 315 F.3d at 1330, 65 USPQ2d at 1382 ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.");< ** In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the references were held to be unpatentable thereover because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions.). For more recent cases applying this principle, see Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).

B. Only Result-Effective Variables Can Be Optimized

A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) (The claimed wastewater treatment device had a tank volume to contractor area of 0.12 gal./sq. ft. The prior art did not recognize that treatment capacity is a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result-effective variable.). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (prior art suggested proportional balancing to achieve desired results in the formation of an alloy).

Claims 20 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Tanaka 5474588 in view of Sarkar 4599098, Miller 4501602, and optionally Schultz 4263031.

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Looking to figure 1 of Tanaka, 34 is the insert that is also an elongated coating. It is made in substantially the same manner of as Applicant's coating – only different heat sources are used. Since the same thing is done, it is deemed that it proper to consider the same result to be a powder coating. The size of the particles are inherent and/or would have been obvious for substantially the same reasons it is in Hicks.

As to inserting: 34 is inserted into 31 and 41 (see figure 1). Each/either can be considered to be a "glass preform structure" because it is a structure that is used to make a glass preform. This is deemed to be the broadest reasonable interpretation of the claim language.

The PTO gives a disputed claim term its broadest reasonable interpretation during patent prosecution. Hyatt, 211 F.3d at 1372. The "broadest reasonable interpretation" rule recognizes that "before a patent is granted the claims are readily amended as part of the examination process." Burlington Indus. v. Quigg, 822 F.2d 1581, 1583 (Fed. Cir. 1987). Thus, a patent applicant has the opportunity and responsibility to remove any ambiguity in claim term meaning by amending the application. In re Prater, 415 F.2d 1393, 1404-05 (CCPA 1969). Additionally, the broadest reasonable interpretation rule "serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified." In re Am. Acad. of Sci. Tech. Ctr., 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting In re Yamamoto, 740 F.2d 1569, 1571-72 (Fed. Cir. 1984)).

Examiner could not find an explicit definition of the term 'glass preform structure'.

The specification must clearly set forth the definition explicitly and with reasonable clarity, deliberateness and precision. Teleflex Inc. v. Ficosa North America Corp., 63 USPQ2d 1374, 1381 (fed. Cir. 2002), Rexnord Corp. v. Laitram Corp. 60 USPQ2d 1851, 1854 (fed. Cir. 2001) and MPEP 2111.01.

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To the degree that interpreting the term in light of the specification suggests that the above "broadest reasonable interpretation" is unreasonable, and that the structure has to be made of glass and tubular, the following applies:

Examiner takes Official notice that glass beakers (more specifically Pyrex™ beakers) were (and still are) common known laboratory items used to hold liquids. The scientific reasoning to support this conclusion of common knowledge: they are inert to most substances, durable and relatively inexpensive. It would have been obvious to use a glass beaker or other glass holding vessel as Tanaka's vessel 31, because such are common, readily available devices.

Alternatively: see col. 6 (lines 53-57) of Tanaka which discloses that the insert is inserted into a structure as claimed and substantially identical to applicants. At that point, the "powder coating" is a sintered coating. There are various ways that this is deemed to be a reasonable interpretation of the claim.

First: The claims are comprising in nature. Thus are open to additional steps. For example, the sequential steps.

1) Depositing soot on a rod to create an insert, the insert comprising a powder coating wherein the powder coating comprises particles having an average primary particle size less than about a micron.

2) Sintering the insert.

3) inserting the insert within a glass preform structure.

This is what Tanaka does and it has all the steps/limitations (underlined portions) that are claimed in 20. In other words, the claim does not specify when the insert comprises the powder coating.

Second:

When reading the instant specification, Examiner noted pages 22, 25-26, 33, 54, 56, 60, 66 and 68 because they suggest that the powder coating/particles is not exactly a powder of individual particles. Rather those pages suggest that "powder coating" can be particles that are fused together. Examiner could not find any indication as to when a fused mass of particles stops being "particles" or a "powder" (in the specification or the prior art). It would be improper for the Office to dictate or arbitrarily decide when the degree of fusing would sufficient for a potential infringer to avoid infringement – because such would likely limit the scope of any issued claims. Therefore it is deemed that the present claims read on 100% fused/consolidated powder coatings. See the above pages some of which suggest that the coating is consolidated – for example the paragraph spanning page 25-26.

If Applicant considers the broad interpretations to be unreasonable and Applicant does not wish to exercise the "*opportunity and responsibility to remove any*

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ambiguity in claim term meaning by amending the application ", then Applicant should point out why the Office's interpretation(s) is not the "broadest reasonable", what the broadest reasonable interpretation is, and preferably point out why it is reasonable. Mere argument that the Office's interpretation is incorrect (and giving no guidance/suggestion as to what the correct interpretation is) will likely be deemed as non-responsive.

Claim 27: Tanaka teaches using such a metal. Col. 1, line 23.

Conclusion

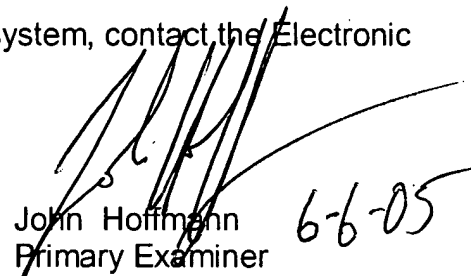
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Blankenship, Cundy, Kamijo, Loskot, Eisbrenner, Perry, Kobayashi, and Berkey are cited as being directed to disclosed but unclaimed features.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John Hoffmann
Primary Examiner
Art Unit 1731

6-6-05

jmh